

Environmental Laboratory Statement of Interests

Advisory Committee on Detection and
Quantitation

Primary Responsibilities Environmental Laboratories

- The commercial laboratories are the primary generators data on the levels of contaminants in the environment.
- We perform the detection and quantitation level determinations.
- We are the group that will be tasked with implementation of whatever new procedures arise from the FACA process

Use of Results

- We are required to generate detection and quantitation limits for virtually every analytical method that we perform.
- A large laboratory will routinely perform several hundred method detection limit studies every year.
- Although the procedures at 40CFR Part 136 Appendix B in theory apply only to analysis performed under the clean Water Act, in fact the states have required that they be performed across the board.
- The detection and quantitation limits generated form the foundation of our ability to provide data of high quality.

Concerns with the Current Procedure

- We do not believe that the current procedures at 40CFR Part 136 Appendix B allow for reliable determination of detection and quantitation limits.
- This is due to technical limitations such as failure to consider long term variability, method blank results and qualitative identification.

Generation of quality data

- Our primary interest in the work of this committee is the hope that the resulting policies and procedures will allow us to generate higher quality data.

Use of Data

- The lowest limit of reporting for normal data uses, and certainly for regulatory compliance, should be the quantitation limit.
- This is because it represents, or should represent, the lowest level at which the accuracy and precision of the data is sufficient to generate a reliable number.

Generation of Quality Data

- If a method quantitation limit is not low enough for the intended use of the data, the first choice should be an alternative method or method modification that will allow for a lower quantitation limit, not use of results between the detection limit and quantitation limit.
- Quantitation and detection limit procedures must consider factors such as long term variability, method blank levels and compound identification criteria in order to be reliable.
- In the absence of these requirements both false positives and false negatives may be routinely generated, leading to erroneous decisions.

Consistency

- Procedures for determination of the quantitation limit (and detection limit if needed) must be clear, consistent, technically valid and well documented.
- They must be adopted consistently by all EPA offices that are engaged in development and publication of analytical methods.

Consistency

- To ensure consistency and technical validity, the new procedures for identifying quantitation and detection limits should be applied to current methods and supersede the MDL procedure currently used.
- EPA should also work to ensure that state regulatory agencies and accrediting organizations such as NELAC adopt the new procedures.

Ease of Adoption

- Within the constraints of technical validity, the new procedures should be as simple and straightforward to implement as possible, in order to ensure quick and complete adoption by testing laboratories.
- We must recognize that the procedures will need to be adopted not only by large laboratories with IT staff resources and sophisticated LIMS systems, but also by small laboratories.
- The procedures need to be clear and well documented, so that the scope for different interpretations by regulators and data users is limited.